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THYROID FEEDING

WITH REPORT OF FOUR CASES.

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REPORT OF FOUR CASES OF THYROID FEEDING.

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The four cases here presented, two of exophthalmic and one of simple goiter, and one of fat reduction, have been under observation the past year. They form the basis for the notes and commentary following their report.

CASE 1. EXOPHTHALMIC GOITER.

Mr. W. Born in Connecticut, age thirty-three, married, business manager, no special heredity, New England parentage, nervous type. Patient was born in 1863, and although mother was in good condition during pregnancy, she was in a state of mental worry over relatives in the war. Birth and delivery normal. Child was well and strong until three and a half years when he had a severe attack of whooping cough. He was extremely nervous and a limited number of convulsions occurred, generally in connection with indigestion. Measles followed the whooping cough, with an abscess in the right ear, resulting in a permanent diminution of hearing on this side. The nervous condition subsequent to these illnesses was alarming in respect to precocity and over-sensitiveness, and the parents feared mental symptoms might develop. In connection with the fact stated in the following sentence, this query is raised, Could this peculiar and exceedingly nervous state at this early period of the child's life be attributed to a disturbance in the function of the thyroid gland? At eight years the mother first noticed a fold of skin in the neck, corresponding to a slight enlargement of the isthmus of the thyroid gland. From ten to fourteen years, was subject to severe headaches and was more or less nervous. Puberty occurred at fifteen without special symptoms except that the first thyroid enlargement appeared at this time, following a course of

hard study. The fold of skin in the neck, or isthmus, was alone prominent and the only part affected. The enlargement was slight but very distinct and the patient was very nervous. The pupils were dilated, but there was no exophthalmus. In two months the swelling subsided and he returned to his studies.

The second enlargement: Nine months later, in his sixteenth year, the thyroid gland began again to enlarge and in three months the neck measurement had increased from fourteen and a half to seventeen inches. The entire gland was involved. The pupils were widely dilated and at the climax of the swelling, exophthalmus appeared, lasted two weeks and then faded away. This symptom has never returned, although the pupils were again dilated during the patient's stay in Germany. The presence of tachycardia and marked nervous symptoms made the diagnosis of Graves's disease now certain. During the next three months, patient came under the care of Dr. E. G. Janeway of New York, and ergot, galvanism and general sedative treatment were tried without effecting any improvement. At the end of this period he had a sharp attack of bronchitis which increased the measurement of the neck to eighteen inches. The esophagus was crowded and swallowing was slightly interfered with. The goiter became very hard and two small lumps, the size of hickory nuts, formed in it. They were supposed to be calcareous.

In the eighth month of this enlargement the patient fell into the hands of a mesmerist, who exerted a general calmative effect upon him, with a resulting decrease of the size of the tumor. The measurement of the neck gradually receded to fifteen and a half inches, and the goiter was once more soft and pliable with the exception of the hard nodules.

The third enlargement: In his seventeenth year, after an interval of about nine months' rest from active goiter symptoms, the patient's studies were interrupted by an attack of typhoid fever. His neck however remained at

its natural size, fifteen and a half inches, until a post-typhoid cough developed which caused the goiter to reappear and sent the neck measurement up to eighteen inches. Again the patient went under magnetic treatment, so called, with gradual improvement in his condition so that he was able to enter college.

The fourth and last pronounced enlargement occurred in his nineteenth year, seven months later, and was preceded and accompanied by the usual nervous condition. This was the most severe of all the exacerbations and may be considered the climax of the disease. After four months of no improvement the patient went to Germany and was subjected again to the iodine and iodide of potassium treatment. Later, he came under Prof. Nussbaum's care, and arsenic and compression bandages were tried for two months. The patient grew steadily worse and in the tenth month of his attack he returned home, presumably to die. The sea-voyage diminished his nervousness but his neck measured twenty-one inches and the pulsations were tremendous. He again consulted a clairvoyant with immediate relief. The calmative influence and wahoo bark as a depletive for the blood-supply brought about in six weeks a reduction of three inches in the size of the neck.

During this exacerbation the nervous symptoms were most prominent. The ~~tumor~~ and restlessness were excessive, breaking his sleep and inducing extreme anxiety as to his condition and prospects. The pupils were dilated but there was no exophthalmus, patient thinks. The goiter was in its most active state and the disturbance in the circulation very marked as to rapidity of pulse, palpitation and congestion of the head and neck.

During the two years following this last attack the patient's condition was quite comfortable. Dr. Janeway tried compression of the carotids for ten weeks. Dr. A. D. Rockwell subjected him to a three months' course of electrical treatment. No appreciable benefit or change resulted from either.

In the third year after the climax, the patient tried

the effect of a sea-voyage to Europe in a sailing vessel. The trip across did not change the appearance or size of the goiter, but it had a marked sedative effect upon the pulse and circulation. After his return home his condition continued to improve, and in the fall of the same year, the patient began a more purposeful and active out-of-door life. His attention was taken up in his work, and not so self-centered as formerly. He had become reconciled to his goiter and the probability that it could not be cured.

During the next eleven years, the patient's health was very good, and although he was subject to considerable strain at times, the neck measurement did not increase beyond sixteen inches.

At the end of this period, the fall of 1895, the patient was more than usually tired and nervous, and he began to feel heat in his neck, with enlargement of the goiter. After two months' rest his nervousness subsided and the seventeen inch neck girth was reduced half an inch. The following spring although his general condition was better, the goiter was enlarged and he commenced taking dessicated sheep's thyroid.

EXAMINATION—NO ACTIVE GOITER SYMPTOMS.

Patient has a florid complexion and appears full-blooded. There is no organic affection of any kind. The bowels are inclined to be torpid. The appetite, digestion and kidney functions are normal. The sleep is usually good, inclined somewhat to dreams and he often perspires freely in the night; seems to require considerable sleep. The pulse averages seventy-six and is very susceptible to excitation. The heart sounds are strong and heard more diffusely than normal over the chest. The sternum is somewhat depressed and the general chest contour shows lack of full development. Measurements: Expanded, ninety-one centimeters; contracted, eighty-six centimeters; range of expansion, five centimeters or two inches. No motor or sensory symptoms. Tendon reflexes

active but not exaggerated. Capacity for work about normal but patient feels more tired at end of the day than the ordinary individual.

The eyes show no trace of exophthalmus. The pupils are normal in size and reaction with the exception that Möbius sign, insufficient convergence, is present. Fundus and vision normal. On one occasion when the patient was tired and under nervous tension, the left pupil was noticed to be larger than the right, and there was a tendency to blurring, when he read alone with this eye.

Examination of the ears showed absence of the right membranum tympani and evidence of chronic middle ear disease. The left ear presents no external evidence of disease.

Hearing power:

Watch—R. $\frac{25}{50}$; L. $\frac{40}{60}$.

Tuning fork (middle C.) Aërial conduction, R. $\frac{15}{60}$; L. $\frac{50}{60}$.

" " " Bone " R. $\frac{40}{60}$; L. Normal.

The anterior aspect of the neck shows a flattened but distinct enlargement of the entire thyroid gland. All parts are outlined and uniformly involved. The tumor is much larger on the right side than on the left and is soft and glandular to the touch and contains no hard lumps. There is no thrill or pulsation on palpation and no murmur on auscultation; pulse seventy-six. When the goiter is in an active state, as at the time of beginning the thyroid feeding, the enlargement is very pronounced. There is a thrill and murmur and the gland feels like a mass of throbbing blood-vessels. The pulse increases to 100-110 and is full and excitable. There appears to be an over-supply of blood in the system of the patient and in connection with this condition there exists universal arterial relaxation.

Intellect strong, will power and memory good. He is emotionally inclined but there is no hysteria. Temperament is distinctly nervous but under good control.

Certain peculiarities of character* exist as follows:

*Compare Mandc, Journal of Mental Science, January, 1896.

1. The general state of mind is not even and steady; that is, the patient is apt to be at one time over-sanguine and enthusiastic, and at another gloomy and depressed, and inclined to pessimistic views. When health is below par this morbid view is apt to be hypochondriacal as regards his own condition. This tendency to hypochondria was well marked in patient's father.

2. There exists a restless tendency in the patient's mental habits as well as in his physical conduct.

3. Sensitiveness as to the opinion of others; very easily offended.

4. Rather stubborn in argument and not inclined to yield his opinion and entertain the testimony of the opposite side. These characteristics are present and clearly exhibited, not only when patient is suffering from active goiter symptoms but also when the gland is quiescent and the patient is in good condition.

RESULTS OF THYROID FEEDING.

1. When patient began taking the five grain thyroid tabloids of Burroughs, Wellcome & Co., he was in a convalescent state from a general nervous condition, with goiter enlargement. The dose was one tabloid after each meal. In ten days the diminution of the size of the goiter had decreased the measurement of the neck three-quarters of an inch, and the pulse had dropped from one hundred and two to eighty. The apparently beneficial effect was very marked. The patient had no idea of the nature of the medicine and no suggestion was given him as to its effect. The signs of increased metabolism were indicated by greater quantity of urine passed, copious fecal discharges (for a short time only), free perspiration, loss of bodily weight. The only unpleasant symptoms noticed were a feeling of dulness and heaviness in the head with greater difficulty to think; the eyes also felt strained and patient would tire easily. As the patient became accustomed to the remedy these symptoms disappeared and the excretions were less pronounced. At

the end of three weeks of thyroid feeding the neck had become reduced to its usual size and the pulse averaged seventy-six. The tabloids were continued several weeks longer but no change in the patient or size of the goiter was noticed. The patient was well and able to do his work better than ever during the following Summer and Fall, and Winter. This Spring (1896) as the result of coughing from an attack of bronchitis, the neck enlarged to seventeen inches. After the acute symptoms had subsided the patient began the tabloids again, and in three days the goiter and pulse returned to their normal state.

The effect of the thyroid preparation in reducing the pulse-rate and increasing the arterial tension was very noticeable and attended with most satisfactory results to the patient. A number of attempts of steady thyroid feeding at various intervals have been made to effect still greater reduction in the size of the goiter, but without success. No loss in weight has occurred except at the original administration when full doses were employed. This was regained as soon as the tabloids were discontinued, and later on, the patient weighed more than he ever had previously. During the last half year he has used the remedy very infrequently and only at such times as he felt overtired and noticed that his pulse was rapid and that there was a sense of oppression from the dilated arteries. A single tabloid would almost invariably correct this condition and a second or third dose was very very seldom necessary.

CASE II. EXOPHTHALMIC GOITER.

Mrs. A. Born in Connecticut, age twenty-five, married. Parents reported to be of nervous temperament, and both have heart-trouble. As a child, patient was nervous and sickly. While a young girl she was severely scalded on the right arm, shoulder and side of the body. This accident greatly impaired her health, and has helped to make her a partial invalid. At twelve years patient had measles, with middle ear disease and a diminution of

hearing in both ears. Puberty was passed without special symptom. From twelve to fourteen years throat was irritable and was troubled with excessive coughing. Patient's schooling was much interfered with on account of poor health. A noticeable degree of exophthalmus appeared at the age of eighteen. It was equal in the two eyes and would subside and reappear according to the health of the patient. Palpitation of the heart and difficulty in breathing developed after the exophthalmus. Three years later and one and a half years after the birth of her child, an enlargement of the thyroid gland was noticed. This was observed by a physician and it had not attracted the notice of the patient, hence the exact time of the goiter development is not known. Its discovery, now four years ago, was made subsequent to an attack of La Grippe with which however there was no coughing.

EXAMINATION.

Patient appears to be in good flesh, but pale and weak looking. The vascular system seems well filled even to mild dilatation, but with a poor quality of blood. There is no true anemia but an approach to it. The menses are somewhat irregular. The eyes are noticeably prominent, the degree of exophthalmus being equal in the two eyes. The pupils are slightly dilated, but reactions are normal. Both Von Gratfe's and Stellwag's symptoms are present. Möbius symptom is absent. Vision and fundus normal.

Hearing power: Watch, R. on contact; L. at one inch Tuning fork, Aërial: R. $\frac{15}{60}$; L. $\frac{10}{60}$; bone, R. $\frac{25}{60}$; L., $\frac{20}{60}$. Tinnitus exists in R. at times.

Taste and smell normal, but not acute. Tremor in hands very distinct. Romberg symptom, of psychical rather than motor import, is present, knee-jerk very active, but not exaggerated. There is a slight tendency to ankle clonus on the left side. No organic disease. Heart sounds full and ringing, especially at the base, and over a wide area of chest wall. Pulse one hundred and fifteen to one hundred and twenty, full, strong, excitable, and

only moderately tense. Chest not well developed (Fiske-Bryson sign). Inhalation, 78 centimeters, exhalation, 74.5 centimeters, expansion 3.5 centimeters. The right arm and chest is one large cicatricial field, which by contraction at the axilla, limits the movements of the arm considerably. At intervals parts of this scar break down and suppurate for indefinite periods.

The thyroid enlargement is distinct, but not prominent and might easily escape observation. The right side alone appears to be affected but the substance of the entire gland can be plainly felt and outlined. It is as large now as it has ever been, being about the size of a silver dollar, and projecting half an inch from the surface level of the neck. The tumor feels soft and vascular rather than glandular. A purring thrill is felt of constant character, vibrating the right side. On the left side it is not felt.

The pharynx is very much contracted and filled up with large congested tonsils. There is a condition of chronic catarrh and the patient is much troubled with coughing spells, and at times with partial loss of voice.

The intelligence and mental faculties are of good order. No hysteria. Temperament is distinctly nervous. At present she is extremely restless. She is not able to apply herself, physically or mentally, to one object for any length of time.

THYROID FEEDING.

The English five grain tabloids were taken three times a day for one week before any symptoms were noticed. Then the patient grew nervous, lost sleep and appetite, and the menses appeared one week ahead of time. No special symptoms accompanied the function. At the end of the third week the thyroid feeding was discontinued. The patient was in a nervous, trembling, hysterical state, with temperature at 102.3°, pulse 126 and respiration thirty-two. She ached and had burning pains all over, could not sleep and was in a constant state of nausea.

Active tissue-change was evident by the free perspiration, passage of large amount of urine and frequent movements of the bowels. The patient rallied from the effect of the thyroid feeding and a month later a second trial of the remedy was made. At this time the menses were twelve days overdue and the patient was in a nervous, restless state of mind with pulse at one hundred and twenty. Tremor was present and very marked. One quarter of a five grain tabloid was taken t. i. d. On the fourth night she awakened suddenly with vomiting and diarrhea and for twenty-four hours her stomach could retain no food. There was no fever and no sign of the menses until a week later. Thyroid was discontinued.

Examination nine months afterwards showed her to be much improved. This is due, it is believed, to living under better conditions and also to a natural decline in the activity of the goiter symptoms. The exophthalmus is about the same. The thyroid enlargement is distinctly less noticeable. The thrill and murmur, which before were constant, are now rythmical and synchronous with the carotid impulse. The pulse is ninety-eight, small, and does not indicate arterial relaxation. The heart-sounds are less ringing and diffuse. The patient has lost weight and instead of the former anemic plumpness appears much thinner, but in better color and blood. Menstruation occurs at intervals of three weeks and with somewhat more discomfort. There exists the same mental and physical unrest. The muscular restlessness is athetoid in character.

CASE III. SIMPLE GOITER.

Mr. C., age forty, born in Connecticut, married, mechanic.

No special heredity—except that the mother is nervous. At eight years had whooping cough and later, pneumonia. The cough was severe and persistent and following this the goiter appeared, that is, in his ninth year. At first it was the size of a hickory-nut and only the isthmus was involved. Later, it developed more on the right side. It

gradually grew in size but no treatment was attempted until his twenty-first year. Again at his thirty-fifth year an effort to reduce its size was made by cutting into the goiter and inserting two separate rubber tubes, which have kept up a discharge until six months ago. The tumor was not benefited by this procedure. The patient has always been well and vigorous, and the goiter has never caused trouble or prevented patient from attending to his daily work. He has an easy, placid disposition and a mild but distinctly nervous temperament which has been kept latent by the circumstances of his life. The same man under easier conditions, with time and money at his disposal, would be manifestly nervous.

EXAMINATION.

The patient is strong and muscular. There is no organic disease and no motor or sensory symptoms. The body functions are normal except a tendency to constipation. Is not subject to vertigo, headache, neuralgia or rheumatism. There is a history of several minor nervous attacks occurring at rare intervals.

Enlargement of the thyroid gland represents a mass eight inches wide, seven high and five deep. It is much larger on the right side. The tumor covers an area on the anterior surface of the neck bounded by the posterior edges of the sternocleidomastoid muscles, on each side, and extends from the hyoid bone above, down to and overlapping the sternum to the level of insertion of the second ribs. The measurement of the neck is 51.5 centimeters. The artificial sinuses are situated, one in the isthmus and the other in the right lobe. The goiter is glandular rather than vascular, and no thrill or pulsation is felt in its substance. An indistinct soft bruit over different parts is heard, transmitted from the vessels of the neck. The pharynx is normal. The heart-sounds are strong and ringing, pulse ninety-eight, full and mobile. The chest expanded thirty-eight and a half inches; contracted, thirty-five and a half. The hearing is good and

equal in both ears. Eyes normal, as to vision, pupils, etc. There has never been any exophthalmus, tachycardia or nervous symptoms.

THYROID FEEDING.

Patient began with the five grain English tabloids a year ago and continued to take them with very great regularity for a period of seven months. At the end of the second week the goiter felt soft and pliable and the neck measurement fell off one centimeter. The pulse became normal in frequency and was less strong and full.

The patient felt more tired and dull and the appetite was poor. His weight decreased four pounds. Gradually the dose of thyroid was increased and at the end of four weeks he was taking thirty grains a day. The excretions were stimulated and the patient lost another four pounds. There was no headache, but a dull, languid feeling. He felt more tired on getting up than on going to bed. The neck measurement was reduced 2.5 centimeters. Three weeks later the dose was forty-five grains which he stood well for nearly four weeks. The chief symptom was the feeling of weakness in the knees (Paraparesis, Charcot). After stopping the drug a few days, he resumed at a smaller dose. In the fourth month his weight had been reduced eighteen pounds. In two weeks' rest from the medicine he made up this loss, but the neck did not increase correspondingly, as might have been expected.

During the next three months, patient would take the drug in varying amounts as he seemed to bear it. His weight remained normal at one hundred and seventy-five pounds and it did not decrease. The sleep was good and all the functions of the body were normal. The neck measurements reached 45.5, a total gain of 6 centimeters or 2 3-8 inches. The patient now omitted the thyroid feeding one month and at once began to make more blood and gain flesh. The goiter did not change much in size, however, until near the end of this time, when he was subjected to an unusual strain of stooping over and lifting

and at the same time caught cold. The result was to bring the goiter back to its former size with a pulse running at ninety-eight.

The patient was again started with the thyroid tabloids, three after each meal or forty-five grains daily, and at the end of four months his neck measured forty-two centimeters, showing a reduction of nine and five-tenths centimeters, or nearly four inches. At first the patient lost ten pounds but since his weight has remained stationary. All the functions of the body have been normal, the patient has felt well and has worked at his trade daily. The only symptom he notices is the weakness in his knees which comes quite regularly toward the end of two weeks constant thyroid feeding. At this time he stops the tabloids for one, two or three days and then returning to them, when the paraparesis disappears. The appearance of the neck is very much improved, more so than the reduction in measurement would indicate. The left side shows no swelling whatever, the isthmus is represented by a small, hard mass, and the right lobe only is prominent, being the size of a hen's egg. The patient is now resting from the thyroid feeding and is under strict orders to avoid muscular strain and subsist on a somewhat reduced diet. Later, it is proposed to again try the feeding in the hope of reducing the goiter still more.

CASE IV. FAT REDUCTION.

Mrs. D., age fifty-five, widow, American, matron, heredity good, always well and strong. Only complaint is periodical headache every three to five weeks. Menopause ten years ago. Only sickness of late years was five years ago and was the result of overwork.

Examination showed no organic disease and patient was found to be in excellent condition.

THYROID FEEDING.

At patient's own request an experiment in reducing her fat was undertaken by feeding Borroughs, Wellcome &

Co.'s tabloids of dried thyroid. Her weight at this time was one hundred and ninety-two pounds, which could not be called excessive for a person of her height and build. Nevertheless her flesh was gradually increasing and the shortness of breath and rapid exhaustion greatly interfered with her daily work as matron of a large institution.

First Thyroid Administration.—Patient began with one-quarter of a five grain tabloid, t. i. d., and gradually increased. The following daily program was made out for her, and this with few exceptions she faithfully carried out:

On rising: Glass hot water. Seventy-five deep breaths at open window, gradually increased to 200. Abdominal exercises. Breakfast: One egg or its equivalent in meat, one slice of wheat toast, no butter; one saucer cereal, milk but no sugar; one cup of coffee, milk and saccharine; cucumbers, radishes, lettuce or other relish. After breakfast: A rapid, vigorous walk, one hour; housework. Middle of morning: Seventy-five deep breaths, etc. Glass of cool water. One and a half hours before dinner, cup of hot water. Dinner: Soup; all meats; all green vegetables; no potatoes; one slice of wheat bread, no butter; no pastry or sweet dessert, lettuce or other salad; fruit, water or tea with saccharine. One hour after dinner, sponge bath with hard rub to abdomen; housework.

Middle of afternoon seventy-five deep breaths, etc., glass of water. One-half hour before supper, cup of hot water.

Supper: Small bit of meat or egg, one slice toast or stale wheat bread, no butter, one saucer of cereal, no sugar; lettuce or other salad; water or tea with saccharine.

Evening: Vigorous walk of an hour. On retiring, seventy-five deep breaths, etc., abdominal exercises, glass of water.

In the fourth week when the dose had reached one and a quarter tabloid t. i. d., the patient felt tired, back ach-

ed, lost appetite, perspired freely, passed more urine, and the pulse went up to one hundred and ten. On reducing the dose to one tabloid t. i. d., these symptoms disappeared. At the end of the fifth week, patient had lost sixteen and a half pounds and it was thought best to stop the thyroid administration for a time. Aside from the transient symptoms in the fourth week the patient experienced no unpleasant feelings.

PHYTOLINE ADMINISTRATION.

During the next seven weeks a preparation of poke berry, called phytoline, was tried. The dose was ten drops six times daily. At first the patient was nauseated, the bowels constipated, and she could not sleep. In a few days these symptoms passed away, the appetite returned and she felt very well, better in fact, than for a long time.

During this period patient lost thirteen pounds. Most of this loss is attributed to the prolonged effect of the thyroid and the manner of living. The effect of the phytoline is doubtful. There was evidence of less tissue change than under the thyroid although the pulse averaged high, eighty to eighty-four. In the fifth week the dose was increased to twelve drops, six times a day. Constipation resulted for a few days, but the amount of urine passed was about the same as before.

THE SECOND THYROID ADMINISTRATION.

This followed immediately after the phytoline experiment and began with the original small dose, one-quarter tabloid t. i. d. In the first five days of this second trial of the thyroid the patient gained half a pound. After that the dose was increased to one-half a tabloid t. i. d. and in a week's time she had lost three pounds. At this time patient tried for two days the experiment of reducing the amount of liquids taken. The constipation became marked, urine decreased in amount, throat dry, and the patient desperate with a thirst which required several

days free drinking to allay. In the third week she felt weak and the pulse went up to one hundred and twenty-five and there was an uneasy sensation about the heart. Medicine was discontinued for a day. In the fourth week the dose was increased to three-quarters of a tabloid, and then very gradually brought up to one and one-quarter tabloid t. i. d. by the end of the seventh week. At intervals there would be physical weakness, and increase of the pulse, heart uneasiness and marked thirst, but her work was not interfered with and on the whole she was fairly comfortable. The dose of thyroid was now steadily lessened and at the end of twelve weeks stopped. The patient's weight fell off twelve and one-half pounds in the first seven weeks of the second administration and in the following five weeks, the period of reducing the dose, there was a loss of eleven pounds. The total reduction in the whole time under experiment, four and one-half months, was fifty-three pounds. She states that a year and a half ago a swelling developed in the right popliteal space about the size of a small hen's egg. It was diagnosed as a fatty tumor, and under the thyroid administration has entirely disappeared.

The patient reports as follows, five months after stopping the thyroid: (1). No further loss of weight. (2). Appetite did not return until three weeks after discontinuing medicine; in first administration it came back at once. (3). There was a greater amount of urine passed three weeks after stopping the thyroid than during the last week of administration. (4). Bowels, skin and heart-action normal. (5). Can exercise freely without exhaustion and dyspnea and patient's daily work is accomplished with ease. (6). Reports that she feels better than she has for the last five years; headaches much less frequent; is happy at the result and only regrets that the loss of fat has brought out the wrinkles in her face. (7). Ten days before stopping the thyroid, her hair began to fall out and the loss was considerable and constant for a month. (8). Following the loss of

the hair, it was noticed that the finger-nails were rough and uneven, suggesting a sclerodermic condition.

COMMENTARY.

The importance of considering the neuropathic tendency of the individual as a factor in the existence and production of Graves's disease is well illustrated by the first case of exophthalmic goiter. This case especially shows the rise and fall of the active goiter symptoms with the accompanying nervous phenomena.

The idea is conveyed by most writers on this subject, since Möbius stated his theory in 1886, that these nervous symptoms are a consequence of the abnormal activity of the thyroid gland. While this view is fully accepted, as far as it goes, it is possible that sufficient consideration has not been paid to the fact urgently set forth by Charcot, and since generally recognized, but not fully appreciated, I believe, that Graves's disease, well-defined, exists almost exclusively in neurotic individuals. Further, and this is the point I wish to emphasize, this disease usually develops at a time of nervous instability, or when the patient is in a depreciated condition characterized by a lack of nerve tone and manifested by nervous symptoms, mild or severe, as the case may be. If this is a fact, that the patient is in a distinctly nervous state previous to and at the time when the first symptoms of the abnormal activity of the thyroid gland appear, then this state, it is fair to assume, must be a predisposing factor of special significance.

There is no doubt that the thyroid gland once stimulated, and set in active operation, can, by over-secretion, or altered secretion, or both, affect the nervous tissues directly, or indirectly, and so increase and perpetuate the nervous phenomena, but the problem is deeper than this and the real question is, how is the gland excited to this abnormal activity? The answer to this question involves a broader conception of the origin and development of Graves's disease than that entertained by the thyroid

theory. Indeed, this latter theory is included and forms only a part in the larger interpretation of the nature of the disorder. Without further speculation at this time, it may be simply stated that great importance has been attached to the study of the fundamental nervous organization of the individual and the writer has been impressed wih the advantage of viewing this disorder as one that is intimately associated with a very general, systemic condition of nervous weakness and instability and that this condition, rather than the symptom-complex itself, should be the chief object of treatment.

Attention is called to the following points in evidence:

1. Speaking very generally and within limitations, certain active symptoms of Graves's disease are an intercurrent event in the life of a neuropathic individual. The goiter with its attendant symptoms, represents an acute nervous manifestation comparable to some of the more distinct and localized forms of hysteric and neurasthenic disturbance.

2. The psychological element is of great importance in explaining the development of the symptom-complex. The objective feature of the affection attracts the attention, and apparently every sign points to the swelling gland as the seat and cause of all the symptoms. The patient's thoughts and the physician's efforts are focused on the goiter, and the result has been to magnify this symptom and really to favor the full growth of the disorder. There is no question of the prominence of this psychological factor in the class of cases represented by Case I. The effect upon this case through the medium of hypnotic suggestion is most interesting evidence in support of this view. In this instance the patient was very suggestible, and actual hypnotic sleep was not induced. The most palpable effect of the seances was a complete allaying of nervous irritability and anxiety and the production of calm and the confidence of recovery.

3. When the disease is established and there occurs an exacerbation of the symptoms, I believe that careful

inquiry would show, as in Case I, that an increased nervous condition, or at least a state of health below par, previously existed.

4. The advantage and importance of considering the goiter as in part a symptom, rather than the pure and direct cause of the disorder, is best appreciated from a therapeutic standpoint, to wit: If we do not attempt to treat the goiter directly, thereby making this the center of attraction, but turn our attention wholly to improving the general nervous condition, by rest and hygienic measures, we will accomplish more than in any other way. Not only will the acute symptoms subside, but also, if the patient can be kept in a fairly stable nervous condition, no further exacerbation will occur. The chief difficulty with this very simple but rational method of procedure has been already stated, viz., that both physician and patient have been in the habit of considering the goiter the paramount object of interest, and it is not easy to convince the patient that this enlargement is of secondary importance to the general systemic condition.

Reviewing the early history of these three cases of goiter, we find that the neuropathic tendency which was conspicuously present in the two exophthalmic cases, is absent in the third, or simple goiter, case. It has been suggested that the presence or absence of the nervous element must play an important part in the kind of goiter developed, but it is by no means clear how this element or factor operates. In the first case, the thyroid enlargement was the most prominent feature in the life of the patient for many years, and it developed into a tumor, richly vascular. In the second case, the goiter appeared secondary to the exophthalmus, and was always of less importance in the mind of the patient. It is distinctly vascular, but only the right lobe is enlarged, and that to a slight degree. In the third case, that of the simple goiter, there is the least neuropathic tendency, and we have, as is generally the rule under such conditions, parenchymatous thyroid enlargement.

The act of coughing as an etiological factor in the production of goiter seems to me deserving of more attention than it has yet received. The history of all three cases in the early, as well as in the latest stages of the affection, demonstrates the distinct and rapid increase in the goiter following severe coughing.

In considering this factor however, we must not emphasize unduly its importance. In the second case, with a throat badly choked up, a chronic catarrh, and more or less constant tendency to cough, we find the smallest sized goiter. Nevertheless, this, as well as the other two goiters, will measurably increase in size after a fit of coughing. Indeed, no one can witness a person continue coughing without noting the state of congestion which follows the act throughout the tissues of the neck.* On this account, if severe coughing occurs in a neuropathic individual, especially in early life, and when the general health is depreciated, the possibility of goiter should be thought of and an attempt made to relieve the cough. It is not desirable to attach too much significance to such a common symptom as coughing, but under the conditions named, I think we are bound to take heed and not to consider it of no consequence.

THE EFFECT OF THYROID FEEDING.

The results are summarized as follows:

Case I. Apparently this case has been benefited by the administration. I do not consider the benefit as anything more than temporary or transient. Provided the patient did not become nervous as the result of overwork, or business anxiety, I believe his condition would be as well as it has been under the thyroid treatment. He considers his head has been clearer, and that he could think better this past year, and he attributes this improvement to the use of the medicine. I think this is undoubtedly true, inasmuch as in this case the thyroid treatment increases the arterial tension, as well as reduces the pulse

* Guyon. "Hyperthropie subite du corps thyroid." Arch. de Physiologie, 1870, III, 167.

rate, and there is actually a diminution of the chronic state of arterial congestion. On three different occasions the goiter has slightly enlarged, but at each time, a few days' thyroid treatment would reduce the size of the tumor and slacken the pulse to a normal rate. This effect is very distinct, and very satisfactory, and thus far no injurious result has been noted. Beyond the comfort and satisfaction it is to the patient to know that he has a remedy that will reduce his neck and pulse, I believe no special good has been accomplished by the thyroid administration. I would claim, that the elimination of mental worry, and hygienic measures, would yield the same general result. The size of the goiter when contracted and quiescent has not been reduced by the thyroid feeding.

Case II. The results obtained were unfavorable as regards constitutional effects. The patient and her friends, however, thought the goiter and the exophthalmus were slightly improved. The neck measurements did show a small reduction in the size of the tumor. The treatment of this case was very unsatisfactory, as she could not be trusted to follow directions.

Case III. The neck measurement in this case was reduced over two inches and then remained stationary. Later, after the thyroid feeding had been omitted, and under strain, the goiter returned to its former size. A second attempt, of four months duration, to lessen the size of the tumor has resulted in reducing the size of the neck circumference nearly four inches, thus causing a marked improvement in the patient's appearance. The general health has not been disturbed and no injurious effect has yet been noticed from the administration of the remedy. Mentally the patient has appeared brighter and better since he has been under the thyroid treatment. As in Case I the effect of the medicine in reducing the pulse-rate and increasing the arterial tension, thereby diminishing the arterial congestion is the most probable explanation of this.

Case IV. While the result in this case is excellent,

and no unfavorable symptom has thus far appeared, nevertheless, I should never advocate the use of thyroid extract as a fat-reducing agent. It is too powerful, and we know too little of its physiological effects, near and remote. The patient went through the reduction of fifty-three pounds, in four and a half months, with comparative ease, and did not miss one day from her work, and the result, as far as she herself has been able to ascertain, is entirely satisfactory. The two most striking features of the thyroid administration were the partial falling out of hair, and the disappearance of the fatty tumor.

In comparing the effects of the thyroid extract upon the circulation in these different cases, the following points are to be noted, as possibly affecting the results obtained:

1. In the two exophthalmic cases, note the difference in the duration and stage of development of the goiter. In Case I, the acute stage is passed and the symptoms are no longer active. In Case II, the symptoms are still active, and the patient has not entered a secondary quiescent condition.

2. Between these two cases also, we have a wide difference in the state and quality of the blood. Case I has good, red blood, whereas Case II has blood of an anemic character.

3. In both Cases III and IV, we have good blood, but in the perfectly healthy individual the pulse-rate is increased by the thyroid, and the case of the parenchymatous goiter, it is lessened.

The connection or relation of the thyroid to the other glands of the body it is important to note, and especially in regard to the glandular appendages of the sexual organs. A study of the prognosis as to procreative power in goiterous individuals has not merited the special attention it should. The testimony of the three cases, as far as it goes, seems unfavorable to the rearing of offspring. Case I has been married five years, had one child

with a serious circulatory disease and it soon died. Case II, married five years, one child weighing four pounds at full term birth, died of inanition. Case III, married fifteen years, no children.

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